Historic, archived document

Do not assume content reflects current scientific knowledge, policies, or practices.

A281.9
F76Fm
Cop. 2

#80

FAS-M-80 Foreign Agricultural Service UNITED STATES DEPARTMENT OF AGRICULTURE May 1960

MARGARINE

IN WESTERN EUROPE

FOREWORD

This study is a part of a broad program conducted by the U. S. Department of Agriculture to develop foreign markets for U. S. agricultural products. The study was conducted under a project agreement between the Foreign Agricultural Service and the National Association of Margarine Manufacturers, partly with funds available under Public Law 480. It was written in 1958, and some of the conditions reported may have changed, although not radically.

Western Europe is the largest foreign market for U. S. vegetable oils. Just after the war, in 1945-49, Western European countries imported around 132 million pounds of U. S. vegetable oils a year (including the oil equivalent of soybeans). Last year, they took well over a billion pounds from the United States--more than half of the total exports from this country. Since vegetable oils are the principal ones used in margarine, the expanding production of this industry in Western Europe offers opportunities for even larger exports of vegetable oils from the United States.

Walter W. Dibes

Director, Fats and Oils Division
Foreign Agricultural Service

CONTENTS

	Page
Invention and definition	1
Fats and oils ingredients	2
Consumption	3
Prices	8
Production	10
Production operations	12
National margarine requirements	13
Comparison with U. S. practices	16
Outlook	16

---

*The author is indebted to the International Federation of Margarine Associations and to Dr. Ir. J. Sevenster, Agricultural Advisor to the I.F.M.A., for valued assistance in the collection and evaluation of much of the information in this review.

MARGARINE IN WESTERN EUROPE

By Siert F. Riepma
National Association of Margarine Manufacturers

The margarine industry of Western Europe is the world's largest, and it is one of the most important users of fats and oils. Last year's production totaled about 4 billion pounds, which took around 3.5 billion pounds of crude fats and oils. Most of this is vegetable oil, and nearly all of it has to be imported. Coconut and palm oils are the most widely used, although others like the soft oils, peanut, soybean, and cottonseed, are well liked too. The selection is controlled to some extent by important restrictions and other regulations but, by and large, price is the determining factor. Because U. S. soft oils are generally competitive in price, they have found the margarine industry of Western Europe an expanding outlet.

Invention and Definition

Western Europe is margarine's homeland. It was 90 years ago that the notable French chemist, Hippolyte Mège-Mouriez, completed his initial researches for a satisfactory spread that would serve the purposes of butter. What was needed was a food that would be readily available through a controllable production system, and at an economical price. For Europe had suffered an increasingly severe shortage of fats since the Napoleonic wars. The rapid expansion of population, the growth of industrial areas with their new large working classes, the advent of gradually rising standards of living based on machine technology, and, perhaps the disruption of older butter sources by wars and social changes all contributed to the shortage.

It was the Emperor Louis Napoleon III who asked the new chemical science and technology to invent a new kind of "butter." He did so by way of a competition authorized in 1869, and Mège-Mouriez won the award with his "oleomargarine" product. French and English patents were issued in July of that year.

One reason the inventor called his mixture "oleomargarine"--after the Greek word "margarites," meaning pearl-like--was that he believed its glistening appearance was due to what was then called margaric acid. The "oleo" came from the Latin "oleum," for the strained beef fat that was then the principal component. Today, "margarine" is the accepted term, appearing in the legal definitions of most countries. The next step will possibly be development of a more standard European definition to replace the diverse descriptions in the several national laws, much as has been done in the laws of many U. S. States.

Although Mège-Mouriez received the credit for establishing the principles on which the first margarine manufacture was launched, many improvements came rapidly. Modern margarine is the result of a long chain of technical progress and quality improvement that is constantly being extended through new developments. Scientific minds in various countries have made important contributions. Margarine is a cosmopolitan product.

By World War II, it had become a world industry, with a total annual volume of close to 3 billion pounds, three-fourths of which was manufactured in Western Europe. The war considerably assisted margarine's further growth, and despite ingredient shortages, it became familiar to millions who had not before used it regularly. Twentieth century

wars have, in effect, merely intensified the same combination of causes that had caused margarine to be created. In a very real sense, margarine--like so many commodities--is a product of military history.

Fats and Oils Ingredients

As early as the seventies, Europe could not provide enough fats and oils for the growing margarine industry. Premier jus, lard, and some vegetable oils, especially peanut oil, were being used. Oleo and cottonseed oils from the United States soon were introduced, along with coconut, palm, palm kernel, sesame, and other oils from Africa and the South Pacific. A shift to tropical oils became more pronounced after 1890, with coconut, palm kernel, and palm oils--the so-called hard oils--coming into the picture most strongly.

The introduction of hydrogenation after 1907 made all edible vegetable oils, and also whale oil, available for margarine on a much wider scale than before. Now the industry could select ingredient oils more on the basis of cost and less to achieve a certain combination of hard and soft oils for the desired plastic solid. Thus the European margarine industry gained a cost advantage of considerable importance. By 1907, vegetable oils made up perhaps a third of the total fat ingredients of margarine in Western Europe; in 1914, the ratio was around four-fifths. Coconut and palm kernel oils accounted for about two-thirds of this, and came mostly from the colonies of European countries.

Little information is at hand concerning the precise proportions of different fats and oils composing margarine, even on a country basis. The dominant consideration is price, but it would be an error to assume that this rules for all margarines. Some--especially higher priced brands--are limited by formula considerations that may be strict. Many, however, may employ a fairly broad range of fats and oils over a period of time.[1]

With total production in the neighborhood of 4 billion pounds a year now, Western Europe's margarines create annually a market for some 3.5 billion pounds of crude fats and oils. Any particular fat may be "in" or "out" as its availability shifts. Thus, for a short period in 1957-58, the West German industry used a great deal of U. S. cottonseed oil, then returned to African peanut oil, which had re-established a definite price advantage. Both oils are highly valued for margarine manufacture. It must be acknowledged that the makers produce good margarines from a rather fast-changing list of ingredient fats and oils.

There is, however, a certain stability in the dominance of vegetable oils. Animal fats have declined in European margarine since before the Second World War. Vegetable oils now contribute possibly 80 to 85 percent.[2] Major elements are the so-called hard fats--coconut oil being the leader, with palm oil apparently in second rank, judging from one survey made in 1956. These have of course been more available since their use in soap has declined. Whale and marine oils play a fairly steady role, but one much less sizable than 20 years ago.

Import restrictions--quotas, allocations, duties--and other controls often influence the manufacturer's choice. In France, the margarine maker must, in effect, choose from what the national fats and oils governing agency makes available for domestic processing. In West Germany, 5 percent of the manufacturer's purchases must be of rapeseed oil, a domestic crop, although he is not obliged to put it into his margarine. Commonwealth oils of the "hard" class get a certain preference in the United Kingdom and throughout the sterling area. In times of butterfat surplus, margarine may be required to incorporate

---

The chemical structure of the different fats is not a determinant in selection for margarine, except, possibly, for certain brands.

[2] National shares of vegetable oil in margarine fats ingredients in 1956 seem to have been about as follows: West Germany, 85 percent; Netherlands, 75-80 percent; United Kingdom, 85 percent; Denmark, 70 percent; Norway, 35 percent (here, marine oils lead); Belgium, 85 percent; Austria, 40 percent. These proportions may have changed since that year, but not to a radical degree.

this commodity in some proportion, usually from 10 to 25 percent. This aspect of margarine ingredients is one that frequently changes and assumes different forms in each country.

Table 1 supplies some data on fats and oils ingredients for those nations where such information is available.[3] These figures are by no means in agreement with others that may be presented elsewhere, but do give an idea of trends. A report from one medium-sized firm gives an interesting, if temporary, example. This plant in early 1958 was using about 45 percent coconut oil, 15 percent being hydrogenated. Peanut oil contributed about 25 percent (half being hardened), and liquid palm oil, 10 percent. Soybeans, rapeseed, and other oils were represented in amounts of 10 percent or less.

Recently, there has been interest in U. S. cottonseed and soybean oils as candidates for the European margarine market. The higher prices of these oils have been their major barrier to wider use in overseas margarine. Soybean oil does not at present appear to be as well accepted in Western Europe as many other oils--perhaps partly because of unfamiliarity, although technical reasons are advanced; but this attitude may change. In general, U. S. oils must meet the competition of other oils, such as peanut. If and when they become fully competitive in world markets, and any remaining technical problems are cleared up, they will undoubtedly become even more important factors in European margarines. Meanwhile, the government's program to export for national currencies is bringing these oils into Italy, Spain, West Germany, and Turkey, although not entirely for margarine.

Consumption

Halfway between the two world conflicts, the widening of world fats and oils production and the relatively stable butter prices helped margarine consolidate its earlier expansion. Consumption of both margarine and butter increased in most countries, and in many of them margarine shared advantageously:

	Margarine Lb. per person	Butter Lb. per person
Denmark	48.4	10.9
Germany	16.3	16.7
Netherlands	18.5	12.8
Norway	36.7	2.2
Sweden	19.4	16.5

Elsewhere in Western Europe, the per capita disappearance of margarine stood below that of butter.

The early depression years checked margarine's promising advance. World butter prices dropped sufficiently to regain consumption at some expense to the lower priced spread. Also, a wave of legislation and regulation rolled over Western Europe as butter producers sought and received special protection.[4] By 1938, this restrictive effort had

[3] Most Western European countries do not report margarine fat ingredients exactly or at all. Of special interest is West Germany, with its commanding production position. One estimate is that West Germany (including West Berlin) margarine, in 1956-57, utilized something on the order of 40 percent coconut oil and palm kernel oil combined--the latter being the lesser; palm oil, about 12 percent; other vegetable oils (including cottonseed, soybean, rapeseed, and some peanut and sunflowerseed oil), 26 percent; whale and fish oil, 20 percent; and 2 percent tallow and miscellaneous.

Italy's growing industry--the largest factor in southern European margarine--at one time in the recent past has depended chiefly upon African palm, whale, and coconut oils, in that order of importance.

[4] The more important devices were requiring butter or other fats to be added to margarine (Netherlands, Denmark, Germany, Switzerland, Norway); taxing margarine by means of a compensation tax or other excise (Germany, Finland, Sweden, Belgium, Italy); imposing duties or other restrictions on ingredient fats and oils or on margarine itself (Germany, Netherlands, Belgium, Denmark, France, Sweden); restricting margarine's sale (Netherlands, Norway); restricting color (Denmark, France); imposing a production quota (Germany, Netherlands, Italy); or simply making it impossible to produce (Italy). Butter admixture requirements ranged mostly between 10 to 25 percent.

The same thing occurred in the United States, where State bans on yellow margarine, taxes, etc., were employed, and efforts to secure relief for margarine made from domestic oils were unsuccessful. American production, however, recovered enough to register a 22-percent increase in 1938 over 1928.

The story of this last effort to repress margarine in Western Europe is reported in International Institute of Agriculture, Studies of Principal Agricultural Products on the World Market, Fats and Oils, Pt. II, No. 5, Rome, 1939.

TABLE 1.--Fats and oils: Approximate quantities used in margarine, specified countries, selected years 1938-57

(Crude basis)

Country and year	Vegetable oils used in margarine											Total animal	Total marine
	Cottonseed	Soybean	Coconut	Palm	Palm kernel	Peanut	Sesame	Sunflower	Rapeseed	Other			
	Mil. lb.	Mil. lb.	Mil. lb.	Mil. lb.	Mil. lb.	Mil. lb.	Mil. lb.	Mil. lb.	Mil. lb.	Mil. lb.		Mil. lb.	Mil. lb.
United Kingdom: 1/													
1938	36	---	79	13	18	72	---	---	---	9		11	150
1950	11	---	112	103	130	184	5	25	---	36		7	92
1955	28	---	136	157	86	238	5	---	---	33		4	110
1956	21	2	153	211	73	170	---	---	---	43		4	107
1957	21	9	137	174	70	99	---	---	---	63		4	164
Netherlands:													
1938	---	11	31	49	11	20	---	---	---	2		2	---
1950	---	34	101	81	7	---	---	---	7	18		---	78
1955	35	19	82	116	70	5	---	2	2	2		4	109
1956	17	35	114	96	79	2	---	6	2	6		5	95
1957	5	30	104	100	71	2	---	2	2	5		10	84
Denmark:													
1938	2	22	50	---	9	2	---	---	---	18		38	---
1950	---	11	45	---	7	5	---	---	---	20		9	20
1955	---	13	54	20	---	2	---	---	2	2/ 11		13	37
Norway:													
1950	---	7	32	---	---	5	---	---	---	---		---	81
1955	---	5	47	---	---	12	---	---	---	---		---	105
Sweden: 3/													
1939	---	---	---	---	---	---	---	---	---	4/ 51	5/ 11	6/ 44	
1950	---	---	---	---	---	---	---	---	33	4/ 64	5/ 34	6/ 11	
1955	---	---	---	---	---	---	---	---	55	4/ 71	5/ 41	6/ 15	
1956	---	---	---	---	---	---	---	---	53	4/ 86	5/ 49	6/ 13	
1957	---	---	---	---	---	---	---	---	33	4/104	5/ 60	6/ 11	

1/ Organization for European Economic Cooperative and Food and Agriculture Organization figures show various discrepancies which have been resolved chiefly in form of F. A. O. data for 1955-57.

2/ Includes all hydrogenated oils.

3/ O. E. E. C. and private trade figures show discrepancies which have been resolved in favor of the latter.

4/ All imported oils.

5/ Tallow and Lard.

6/ Whale oil.

Commonwealth Economic Committee; Food and Agriculture Organization of the United Nations; and private trade sources.

TABLE 2.--All food fats and margarine: Estimated average per capita consumption Western Europe and the United States, selected years

Country	Per capita consumption					
	All food fats 1/			Margarine		
	1938	1955-56 2/	1956-57 2/	1938	1956	1957
	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds
Austria	35.2	41.8	41.8	3.8	6.7	6.7
Belgium	39.6	46.2	46.2	13.3	18.2	18.2
Denmark	12.9	52.8	55.1	37.9	35.1	35.8
Finland	28.6	44.0	44.0	6.3	12.6	14.3
France	3/ 35.2	39.6	39.6	3/ 1.4	3.7	3.7
Germany	46.2	4/ 57.3	4/ 55.0	12.3	4/ 21.8	4/ 21.8
Ireland	30.8	41.9	44.1	2.0	3.9	(5/)
Italy	24.2	6/ 28.6	6/ 30.8	(5/)	6/ 1.3	6/ 1.3
Luxembourg	(5/)	(5/)	(5/)	6.6	(5/)	(5/)
Netherlands	46.2	57.2	57.2	12.5	35.1	34.0
Norway	48.4	52.8	57.2	34.0	44.1	38.2
Portugal 7/	28.6	35.3	35.3	(5/)	(5/)	(5/)
Spain 8/	33.0	35.3	37.5	(5/)	(5/)	(5/)
Sweden	40.1	46.3	46.2	16.8	27.3	29.0
Switzerland	33.0	37.4	37.4	1.9	2.8	3.1
United Kingdom	46.2	48.4	48.4	8.2	13.9	12.5
United States 9/	45.3	45.3	44.4	2.4	6.6	6.9

1/ Figures represent fat content, margarine being calculated as 78 percent for Germany; 80 percent for Austria, Denmark, Finland, Netherlands, Norway, and United States; 82 percent for Belgium, Ireland, Luxembourg, Sweden, and United Kingdom; 84 percent for France, Italy, Portugal, Spain, and Switzerland.

2/ Fats consumption levels are those reported partly by the Foreign Agricultural Service as production estimates, foreign trade data, a July-June year.

3/ Saar excluded.

4/ West Germany, including West Berlin.

5/ Data not available.

6/ Data for postwar boundaries, including Trieste.

7/ Continental Portugal.

8/ Canary Islands excluded.

9/ Civilian disappearance on calendar year basis.

largely passed. It could not be termed an unqualified long-term success, for everywhere except in Germany (where a domestic fats protection policy worked against margarine), the product's sales generally began to increase about 1935.

The Second World War witnessed a remarkable advance for margarine not only in Western Europe but in other countries as well.

The many changes brought about since 1938 have so revolutionized the world margarine situation that it is no longer strictly comparable to that of the prewar years. The problem of efficient utilization of food fat resources has been stressed in the light of shortages and enormous population increases. The rationing of fats, increased production of competitive fats and oils, rises in the cost of living in most countries, and multiplying numbers of people have given an entirely new significance to margarine, and made it much better understood as a product and also as an industry of significance.

A greater acceptance of margarine in Western Europe has accompanied these developments. A further important factor was the high and fairly stable world price of butter, up to 1956, and the reduction of butter output in some countries. World margarine expansion may have encouraged greater consumption in Europe.[5] At any event, production there advanced even after the recapture, about 1949, of prewar national levels. By 1951 the effects of vigorous promotion and the appearance of new margarines of high quality--plus a strong groundswell of recovery in West Germany--already enabled Western Europe to set a new production record, and, for all continental European nations except Denmark, consumption rose above prewar.

That margarine in Western Europe can continue to move ahead seems indisputable, as the factors causing the retreat in consumption appear to be short range in comparison with those likely to bring about, in the course of time, a larger use of the vegetable oil spread. The degree of loss since 1956 has not, indeed, been very great--5 percent. Most trade observers appear to feel that margarine will certainly keep pace as a general thing with population advances. Western Europe's population has gone up approximately 9 percent since the war, and it is estimated it will climb another 2 percent by 1975.

An important question, therefore, is whether Western European margarines can reestablish a consumption rate significantly greater than population growth. The answer lies partly in the correction of the excessive butter supplies situation that arose in late 1956. In part it also lies in the ability of "new" margarine markets--such as Italy and Spain and the south of Europe generally--to proceed at a fairly rapid pace. These considerations, of course, involve many intangibles of economics, trade in fats and oils, and political policies. A most telling influence may well be the proved ability of many European margarines to penetrate markets by virtue of their quality and the promotional energy behind them.

Analysis of the postwar record of margarine by separate countries does not necessarily throw light on its capacity for future volume gains of a decisive nature. A more detailed study is requisite of the many competitive elements in the market and supplies situation.[6] Certainly the margarine industry in Western Europe is better able to protect its advances and to win new ones by the promotional route than it was before World War II. No one who has examined its advertising, packaging, and mercandising can fail to be impressed with its abilities along these lines. Its promotional outlays are often sizable in relation to its sales. Its plant seems to be in good shape, employing up-to-date techniques and equipment. Its leadership is alert. The newly formed International Federation of Margarine Associations is one reflection of this at the international level.

Scandinavia makes margarine its most common food fat, and there the highest per person consumption rates exist as they have for some time. Central Europe and the northern lowlands are also strong margarine territories. Elsewhere its use appears to be growing more or less gradually, dependent upon a variety of factors in each country.

Utilization in Western Europe does not always mean the same as in the United States. In all European countries, and especially in those with lower per person use rates, a substantial proportion of margarine is used as a baker's ingredient or as a home cooking fat. Sometimes the distinction between margarine and what Americans might call shortening becomes difficult to draw outside of technical definitions: a popular form of margarine in West Germany is the "Schmalzmargarine," which is made of 100 percent fat content and

[5] Since 1946, world margarine consumption has proceeded to climb at a faster rate than at any previous period. Responding to consumer and oilseed producer criticism of legal restrictions on the product, the United States Congress removed federal taxes in 1950, and most State restrictions were removed by 1953. In 1950, also, Canada dropped its Commonwealth ban on margarine, leaving Provincial restrictions in force. South Africa in 1950 eased its quotas, while the Australian States relaxed theirs on table margarine. The end of rationing turned out to be a further aid to the margarine progress in various countries.

[6] United Nations, Food and Agriculture Organization, Committee on Commodity Problems, The Butter Situation, May 9, 1958.

is chiefly used for cooking purposes. Shortening in the sense of a compound vegetable fat is not a significant element except in the United Kingdom, and, to an extent, in Switzerland--where, incidentally, a great part of the margarine is used for "shortening" purposes. It is possible that more uniformity in national legal definitions or standards of margarines will come about and clarify the product's position in the food fat field. National legal definitions are not, as might be expected, uniform, and, as a result, what is "margarine" in one country or trade sense may not be "margarine" in another. As the product's expansion continues, there may come about a definition at the international level.

Any appraisal of margarine's present or future significance in Western Europe must take account of this diversity, and also of the important national preferences for and methods of use in the different types of food fats. Southern Europe's time-honored food fat is liquid oil. In France, Italy, and Switzerland, much margarine is used for baking and cooking. Some observers regard the cooking phase as a necessary step toward fuller table use in these and other countries. In Scandinavia, bakeries are often dealer outlets as well as users.

Margarine in Western Europe may well make substantial inroads in the "table spread" market, in which butter continues to hold a strong position in most countries. No data are available for the exact distribution of margarine utilization between table and other uses, if indeed such information could ever be exactly collected. Its acceptance pattern is probably versatile. It comes with (and in) Danish pastry and with Swedish smörgasbord. It may appear in fine Dutch bread, but will not likely be found in the best French cuisine, for margarine in France must be white. It may, however, be found on Italian pasta, especially in the north of Italy. And it has a place on many a German table as well as running second to lard as a cooking fat in German kitchens.

In Western Europe, as in other parts of the globe, there still exists a lack of understanding about margarine, quite apart from the tangled subject of consumer habits, prejudices, "status foods," and other influences which seem to make the food field less elastic in the old world than in the new. The generalization seems true that a process of adjustment is going on, perhaps fairly rapidly, by which margarine is more and more coming to be regarded as an article that has advantages and qualities of its own. It is changing. Modern European margarines can appeal to quality-minded consumers. And it is difficult to conclude that they can fail to benefit from the economic and social changes that are causing this type of food to be more "accepted" as well as needed by the peoples of modern Europe, in their struggle for better living conditions.

Nor will this be based upon the factor of price or substitution altogether. The European margarine industry is conducting, through its promotional efforts, what is in effect a strong consumer educational program to tell the story of what modern margarines can do. Obviously margarine consumption will continue for some time to be influenced by the availability of butter--but its proper role is no longer one of mere "substitution."

This aspect is the more interesting because neither total food fats nor margarine-butter consumption appear to be changing a great deal since the postwar recovery. Per person disappearance rates in 1956 ranged down from Norway's 64 pounds of margarine and butter combined, of which margarine contributed 86 percent, or 55.1 pounds. Most high margarine-butter consuming countries took the greater share in margarine; exceptions are Ireland, Finland, and Belgium.

The year 1956, in which European margarines generally attained their postwar records, and before the 1956-57 fall in the price of butter, may not have been a fully "normal" year--if that term means anything--but it does seem to be a fair one for purposes of longer-range comparison.

TABLE 3.--Margarine and butter: Per capita consumption with comparisons Western Europe and the United States 4 selected years

Country	1938			1950		
	Margarine	Butter	Share margarine	Margarine	Butter	Share margarine
	Pounds	Pounds	Percent	Pounds	Pounds	Percent
Austria	4.7	1/ 7.9	37	2.6	7.5	26
Belgium	16.2	17.9	48	16.3	23.6	41
Denmark	47.4	18.3	72	31.1	10.6	75
Finland	7.9	23.3	25	8.4	31.2	21
France	1.7	12.5	12	3.1	13.6	19
Germany 2/	13.4	19.4	45	17.2	13.2	57
Ireland	2.4	32.2	7	(3/)	41.3	---
Italy	(3/)	2.6	---	(3/)	2.9	---
Luxembourg	8.1	1/ 17.6	32	(3/)	23.9	---
Netherlands	15.6	12.3	56	37.5	26.0	86
Norway	41.2	20.1	68	44.8	10.1	82
Sweden	20.5	24.1	46	24.7	30.0	45
Switzerland	2.2	15.0	13	(3/)	13.2	---
United Kingdom	10.0	24.1	29	16.7	16.8	50
United States	2.9	16.4	15	6.1	10.7	36
	1956			1957		
Austria	8.2	10.4	44	4/ 8.2	(3/)	---
Belgium	22.2	23.8	48	22.2	23.7	49
Denmark	43.9	19.4	69	44.7	22.0	67
Finland	15.7	17.9	33	17.9	27.8	39
France	4.4	4/ 14.3	24	4.4	16.7	21
Germany	28.0	15.2	65	28.0	15.9	64
Ireland	4.8	44.6	10	(3/)	(3/)	---
Italy	1.5	4/ 3.2	32	1.6	3.2	33
Netherlands	43.9	6.4	87	42.5	8.6	86
Norway	55.1	7.1	86	47.8	7.9	44
Sweden	33.3	19.2	58	35.3	17.8	67
Switzerland	3.3	4/ 14.5	19	3.7	(3/)	---
United Kingdom	16.9	15.2	53	15.2	17.5	47
United States	8.2	8.7	48	8.6	8.4	51

1/ 5-year average.
2/ Reich, before 1950; then West Germany including West Berlin.
3/ Not available.
4/ Estimated.

Prices

In Western Europe, margarine runs much closer price competition with butter than in the United States. Comprehensive and exact data are not available, nor is this the place to develop another analysis of margarine-butter price relationships. Very approximately, the margarine retail price "averages" about the equivalent of 25 U. S. cents per pound for the standard or medium grades.[7] Often margarine is available in two or three broad classes or types and price levels--a common distinction being between "table" and "cooking," and "premium." In England, early in 1958, there were these categories:[8] Premium brands, some containing butter, at the equivalent of about 30 cents or more per pound; standard brands, at about 25 cents; and economy brands at 19 cents.

[7]In this discussion the European prices are given in U. S. cents per pound. In the United Kingdom the unit is the pound or a fraction thereof. On the Continent the most common retail package is 250 grams, or 0.55 pound. There are also 500-gram, 1-kilogram, and bulk packages.

[8]Commonwealth Economic Committee, Intelligence Bulletin, July 1958, p. 24. Comparative per capita consumption and price data will be found in United Nations, Food and Agriculture Organization, Committee on Commodity Problems, National Dairy Policies, Apr. 27, 1959, pp. 51-52.

Necessarily, margarine prices are connected to those of the fats and oils incorporated. And these in turn are governed not only by supply and demand, but, at various times and places, by quotas, fixed prices, preferential treatment, import duties, and so on. Margarine prices in recent years have been more stable, on the whole, than butter prices, which are frequently affected by subsidies or other devices. Taking as a point of reference the figure of 25 cents retail for a pound of vegetable spread, butter prices in 1956 in Western European countries, according to one survey, tended to show an even larger scale, going from 45 cents (Denmark) to $1.08 (Switzerland) per pound. Perhaps a rough general "average" would have been 55 to 60 cents.[9]

In 1956, toward the end of a period of fairly stable butter prices, margarine prices in different countries of Western Europe offered widely different comparisons. According to available information, in Belgium margarine sold at retail for 27 percent of the price of butter. In the United Kingdom and in Spain, the ratio was about 50 percent. In the major consuming countries it was between 33 and 40 percent. The same lack of uniformity comes to view when the European countries' per capita consumption of margarine is compared with their respective margarine-butter price ratios.

TABLE 4.--Margarine and butter: Average retail price, selected countries, 1956 1/

Country	Average retail price		Price ratio of margarine to butter
	Margarine	Butter	
	Cents per pound	Cents per pound	Percent
Austria	0.25	0.60	40
Belgium	.23	.81	27
Denmark 2/	.19	.45	3/ 40
France	.34	.97	40
West Germany	.22	.81	33
Italy	.32	.79	37
Netherlands	.18	.50	31
Norway 2/	.19	.50	3/ 35
Spain	.42	.81	50
Sweden 2/	.31	.66	45
Switzerland	.37	1.09	33
United Kingdom	.25	.52	50
United States	.29	.72	40

1/ The countries shown produced 77 percent of world margarine production in 1956. For the European countries, prices were compiled from a report of the International Federation of Margarine Associates. For the United States, prices were compiled from the U. S. Bureau of Labor Statistics.

2/ For these countries, margarine prices represent significant costs imposed by import duties on ingredient oils.

3/ Reflects subsidized butter prices or import duties on ingredient margarine oils.

Since World War II, indeed, the price of margarine in Western Europe has tended to become less relative to that of butter. The subject of price as a governing cause in the sale of margarine was given new interest when, early in 1958, the decline in world butter prices to new postwar lows brought them close or even below those of margarine in London. In that important world butter market, at one time, butter sold for the equivalent of about 34 cents a pound and even lower in some instances. This was within a very few cents of the price per pound of the best grades of margarine--in some cases it was reported that butter sold for less than some margarines. In most countries of Western Europe the price of butter declined, although the differential from margarine was not so narrow.

[9] In the United States, butter's retail price in recent years is reported to have averaged 2.5 times that of margarine. Previously, the ratio was around one-half.

According to one report, butter consumption in 1957 in Western Europe rose by an estimated 373 million pounds, or 8 percent above the 1956 level, while margarine output dropped by only 88 million pounds, or 2 percent.[10] Other information indicates that, in the highly competitive situation that existed for a while in the United Kingdom, a 1-pound gain for butter meant a half-pound loss for margarine. A study of the relationships for individual countries doubtless would provide more accurate data, but it seems reasonable to conclude from the 1957 experience that margarine's selling ability does not rest entirely upon price by any means. There are, apparently, consumers who will not switch from margarine to any considerable extent despite a strictly competitive butter price.

Production

Margarine's postwar production peak of 4.2 billion pounds came in 1956. This was double the prewar figure, and kept Western Europe in the position of manufacturing more than half of the world's greatly increasing supplies of margarine.

TABLE 5.--Margarine: Production in Western Europe, average 1950-55, annual, 1938 and 1956-58

Country	Average 1950-55	1938	1956	1957	1958 1/
	Mil. lb.	Mil. lb.	Mil. lb.	Mil. lb.	Mil. lb.
Austria	49.0	32.0	57.3	71.7	72.8
Belgium	168.0	141.1	203.8	209.5	223.1
Denmark	167.0	179.2	199.4	198.5	174.2
Finland	43.0	30.9	68.4	79.4	68.3
France	155.0	76.2	206.1	208.3	203.9
Germany 2/	1,130.0	984.4	1,473.9	1,444.8	1,388.0
Iceland	4.5	3.1	1/ 5.0	1/ 5.0	---
Ireland	1/ 16.5	11.5	15.7	17.6	17.6
Italy	(4/)	3/ 7.8	5/ 101.4	1/ 110.3	121.3
Luxembourg	(4/)	(4/)	0	0	---
Netherlands	475.0	157.4	564.5	511.6	497.4
Norway	174.0	121.3	213.9	209.5	207.3
Portugal	1/ 2.5	0	4.4	6.6	6.6
Spain	(4/)	0	4.4	1/ 4.4	6.6
Sweden	202.0	136.6	244.2	257.6	233.7
Switzerland	(4/)	9.2	19.8	1/ 19.8	19.8
United Kingdom	902.0	465.9	818.1	787.2	736.5
Total	1/ 3,550.0	2,349.6	4,099.3	4,142.8	3,977.1

1/ Preliminary.
2/ Reich to 1951; Republic, including West Berlin, after 1950. Quotas existed, 1938-48.
3/ 1936.
4/ Not available.
5/ May include compound fats.

[10] United Nations, Food and Agriculture Organization, Committee on Commodity Problems, Study Group on Coconuts and Coconut Products, The Coconut Situation, Sept. 12, 1958, p. 38.

One of the problems is that the price of butter in some countries is insulated from the world price; however, this is not true of the United Kingdom. The Study Group found that there the response since 1954 to a 10-percent change in the price of butter was a 6-percent change upward in its consumption. Margarine consumption went down 4.5 percent. Low butter prices in 1958 caused butter demand to respond 4 percent, while margarine remained the same.

Some countries took action to aid butter consumption: for example, Italy lifted its butter import ban and, for a time, temporarily enlarged its butter import quota, while Sweden and the Netherlands acted to bring about lower butter prices by means of subsidy.

An American analysis of this subject, for before and after World War II, may be found in The Demand and Price Structure for Dairy Products by A. S. Rojko, Washington, 1957, pp. 2-3, 26 ff.

In 1957, a 2-percent drop to 4.1 billion pounds in Western European production reflected a resurgence of butter production in some countries. This checked West German, Dutch, and Norwegian production, although Sweden and Finland showed increases. In 1958 the overall total was 3.99 billion pounds, a further fall of 3 percent, although increases were registered in several countries. In this year, Western Europe's share of world output was roughly half. It appears that this proportion may further diminish, if slowly, with the end of the postwar expansion decade.

Europe's leading producing nation for nearly a decade has been West Germany (including West Berlin). It has even surpassed the total output of the prewar united Reich. West Germany was indeed easily the world's leading margarine producing nation until narrowly displaced in 1957 by the combined effects of larger production in the United States and larger butter supplies in the West German market. The record postwar mark was 1,474 million pounds in 1956, or nearly two-fifths of Western Europe's total. Production in 1958 was 1,375 million pounds.

The United Kingdom ranks second. Its margarine production history is somewhat different from that of most European lands. A prewar output of 550 million pounds became 910 million in 1945, helped by heavy export demands. The postwar high year was 1951, with nearly a billion pounds; in 1958 some 765 million pounds were produced. Since 1956, margarine in England has had to meet intense competition from Commonwealth and other butter.

The Netherlands, which together with West Germany and the United Kingdom accounts for about three-fourths of Western European production, before World War II contributed 157 million pounds, but since the war has run well over 500 million. The high was 563 million pounds in 1956; in 1958 the figure is reported as 503 million pounds.

TABLE 6.--Margarine: Estimated production by area and world total, selected years, 1900-1958 1/

Year	Western Europe 2/	United States	Eastern Europe 3/	India 4/	Other	World
	Mil. lb.	Mil. lb.	Mil. lb.	Mil. lb.	Mil. lb.	Mil. lb.
1900	500	107	---	---	---	607
1928	2,275	317	---	---	108	2,700
1938	2,480	385	---	---	307	3,172
1946	1,430	573	---	---	204	2,207
1950	2,838	937	---	---	683	4,458
1951	3,337	1,041	---	---	907	5,285
1952	3,531	1,286	---	---	1,183	6,000
1953	3,678	1,292	---	---	1,267	6,237
1954	3,925	1,364	---	---	1,495	6,784
1955	4,009	1,333	---	---	2,338	7,680
1956	4,207	1,369	1,680	571	144	7,971
1957	4,119	1,461	1,669	717	276	8,242
1958	3,998	1,573	1,779	717	295	8,362

1/ These figures are estimates based on data from various government and trade publications. Data for the years 1938 and 1952-56 are mostly drawn from a report by the International Federation of Margarine Associations and may be considered more reliable than data for other years.

2/ Countries included: 1900-46: Austria, Belgium, Denmark, Finland, France, Germany (West Germany and West Berlin, 1946); Netherlands, Norway, Sweden, Ireland and the United Kingdom. 1951-57: Same, with these additions: 1951, Italy; 1955, Portugal; 1956, Italy, Portugal and Switzerland; 1957, Italy, Spain, Portugal.

3/ Eastern Europe includes Yugoslavia, East Germany, Poland, Czechslovakia, and USSR.

4/ Includes Vanaspati.

Following these three major producing nations, a middle group produces in the 200 million to 500 million pound range. All these countries have showed significant gains over prewar. Sweden led in 1958 with 234 million pounds, almost twice prewar and a small drop from the 1956 record. France, a relatively low user of margarine, but with a large industry to match its population, by 1958 had raised its prewar output to 221 million pounds, a gain of 300 percent. Norway presents an opposite situation--a small population and high per person consumption--and in 1958 produced 207 million pounds. Belgium's 1958 contribution was 221 million pounds, compared with 137 million in 1937. Denmark's prewar of 179 million became a record 200 million in 1956 and 174 million in 1958.

A third group is comprised of producing countries with a volume of less than 100 million pounds a year. Perhaps the most interesting is Italy, with a vigorous and growing industry that produced 121 million pounds in 1958. Finland, Austria, Switzerland, Iceland, Portugal, and Spain complete this bracket.

Production Operations.--In the United Kingdom and Western Europe together there are between 275 and 300 margarine factories. These are distributed among perhaps 275 different firms of various types and sizes, including many family-owned operations, and representing production rates from a few hundred thousand pounds a year to 100 million pounds or more.[11] Denmark and Germany reportedly have the largest number of firms.

Production is not highly specialized. Many plants turn out margarine of different types. The same combination of centralization and decentralization, of production for national or local or regional markets, has been a characteristic of the European industry as it has of the American. Many plants are small; some go in and out of production, depending upon the market. In some countries the number of plants has increased during the last 10 years. In others, including West Germany, it has decreased. Together, the smaller firms may account for from a fifth to a third of production, depending upon the country. Cooperatives are strongly represented in Scandinavia.

TABLE 7.--Margarine firms and plants: Estimated number in Western Europe, 1958 1/

Countries 2/	Firms	Plants
	Number	Number
Austria	10	10
Belgium	16	16
Denmark	43	43
France	19	19
Germany, West (and West Berlin)	45	50
Italy	34	34
Luxembourg	0	0
Netherlands	20	20
Norway	29	43
Spain	6	6
Sweden	11	11
Switzerland	12	12
United Kingdom	23	27
Total	268	291

1/ Estimated from private sources. In most cases, it is assumed that the number of firms and plants are the same or nearly so, but this may not hold true where there are many very small plants, some producing intermittently.
2/ Information was not available for Finland, Iceland, Ireland and Portugal.

[11] The International Federation of Margarine Associations lists 11 member country associations with 248 individual firms (not including branch offices).

The European industry's manufacturing equipment is mostly European developed. The major possible exception is the "Votator" from the United States, although it is often adapted in some way. Another heat-transfer element, the "Kombinator," is stated to be adapted to the use of varying fats and oils mixtures. Its plant efficiency is high, although there is a tendency to use more labor in certain operations--such as between the blending and final kneading processes--than is done in the United States. It is perhaps capable of producing a fifth more product than at present with a relatively small increase of labor and plant inputs. A majority of plants of any size are reported to have their own refining facilities, but even some of these may buy refined oils from time to time. Cleanliness and order are stressed in plant operations, and laboratory facilities seem excellent. There is a continual effort to improve efficiency; further technical advances are to be expected from the European industry.

Its production processes differ in no major respects from those in the United States.[12] The most obvious difference is that European margarine makers must work with a larger variety of fats and oils than do their counterparts in America. In a typical plant the base stock is carefully weighed according to formula and pumped into stainless steel tanks, often of 500 kilos capacity. The ripened, pasteurized skim milk is added, and also the vitamin A and coloring. The mixture is then passed to other tanks for mixing or "churning." The end product, a creamy emulsion, is cooled in a continuous heat-transfer cylinder and then removed in large cylindrical sections and allowed to "set" before a final kneading process that may occupy two or three stages. This often consists of passing the emulsion through rollers or over cooled drums. The margarine again "sets" and then undergoes a final blending under partial vacuum. The melting point is usually about 30° C. Automatic wrapping machines shape and package with parchment, inner lined, or cellophane wrappings. Baker's or cake margarines frequently are packed in 50 kilo drums.

The milk may be powdered, but, most often, is liquid. If the latter, it may likely come by enclosed truck from sources not far from the factory. Vitamin concentrates are used. The coloring material may be beta carotene, annatto, the certified "coal-tar" colors, or, in part, the natural color of the ingredient oils. Several countries regulate the identity of the coloring agents that may be used. Dried egg yolk is widely employed in lieu of the refined lecithin utilized in the United States.

National Margarine Requirements

National margarine laws exist in every country of Western Europe. Six countries place the minimum fat content of ordinary margarine at 80 percent, which is also the U. S. requirement. Only one--West Germany--is below this, with a 78-percent requirement. Three countries set the figure at 82 percent and five fix it at 84 percent or make that the practice. The fat requirement is usually regulated by law, to be commensurate with that of butter. Most countries require the maximum moisture content to be 16 percent, while West Germany and Austria use 20 percent.

Apart from the requirements concerning mandatory fats and oils and the indicator function, there are no "regular" compulsory fats-usage laws. The indicator requirement, usually involving sesame oil, is found in 12 countries, the outstanding exceptions being the United Kingdom, the Netherlands, Norway, and Switzerland.

All countries except Norway and Sweden make some restriction concerning the use of butterfat. In most instances this is by limiting it to 10 percent and by making some allowance for the butterfat in whole milk or cream incorporated in the margarine. Butterfat may be required to be included in margarine made in the Irish Republic; but this seems to be a unique provision. The laws are diverse in their provisions and, apparently, in their application.

[12] A. J. C. Andersen, Margarine, London, 1954, and M. K. Switzer, Margarine and Other Food Fats, New York, 1956.

TABLE 8.--Margarine: Major international trade in margerine in Western Europe and the United States 1951-57

Country	1951	1952	1953	1954	1955	1956	1957
	1,000	1,000	1,000	1,000	1,000	1,000	1,000
Exports:	pounds	pounds	pounds	pounds	pounds	pounds	pounds
Austria	---	---	---	661	---	756	35
Belgium	198	207	465	2,119	736	518	981
Denmark	619	503	847	2,681	705	946	1,032
France	3,139	5,803	5,990	6,175	7,331	11,041	13,265
Germany, West	4	20	6,682	(1/)	256	369	4,270
Netherlands	10,168	15,847	17,485	74,377	94,039	81,531	40,900
Norway	2,288	417	5,090	14,434	21,001	24,361	23,661
Sweden	11	0	11	90	291	452	642
United Kingdom	23,348	13,331	11,547	11,294	13,754	12,257	14,369
United States	1,813	2,552	3,176	3,889	3,859	4,282	4,910
Total	41,587	38,680	57,295	115,780	141,972	136,513	112,815
Imports:							
Austria	2	4	2	---	2	7	7
Belgium	4	2	---	11	22	68	245
Denmark	2	2	46	46	40	---	---
France	24	19	14	66	111	96	144
Germany, West	71	9	6,683	7	---	(1/)	43
Netherlands	68	49	73	280	150	291	163
Norway	---	---	15	24	1	1	---
Sweden	---	0	6,382	---	0	1,541	6,012
United Kingdom	33	13	2/ 17	60,069	93,407	75,087	32,699
United States	132	154	182	118	101	3/ 1,835	1,915
Total	336	250	13,419	60,621	93,834	78,926	41,228

1/ Less than 500 lbs.
2/ Margarine and shortening, other than lard.
3/ Margarine and "butter substitutes".

Only France prohibits use of artificial coloring. Most of the margarine laws seek merely to permit coloring with dyes that are not injurious. Salt or benzoate of soda, in certain amounts, are the usual permitted preservatives, but the United Kingdom and the Irish Republic prohibit preservatives.

Manufacture and distribution tend to be more controlled than in the United States. Most countries require some type of notification of margarine manufacture. A few make licenses mandatory.[13] No production quotas are currently reported. Distributors are not as a rule covered by special margarine licensing, but are subject to laws in many countries intended to separate the margarine from the dairy products within the store by establishing a physical distance between their respective displays or stocks.

All countries appear to require the use of the term "margarine" (or "margarin"). Most or all countries also have restrictions of some type on the use of dairy terms in margarine advertising, a feature of the federal law in the United States. Labeling requirements are very different between the different nations. Provisions respecting package shapes and sizes appear in some countries, and tend to limit units of table margarine to one kilo or less.

[13] In the United States there is no federal requirement of this type, and only five States still keep licensing laws on their books.

COUNTRY	Minim Fat Conte (Perce
Austria[2]	80
Belgium	82 (if sal 75%)
Denmark	80
Finland	80
France	None; 8 is used
Germany, West (and Weat Berlin)	78
Iceland[3]	80
Iriah Republic[3]	None
Italy	84
Luxembourg[7]	82
Netherlanda	80
Norway	80
Portugal[3]	84
Spain[3]	None[3]
Sweden	82
Switzerland	84
UNITED KINGDOM	None; 84% use

*Source: International
invalid. The

[1]Moat margarine in We
[4]French margarine is whi
upon domestic supplies,

Margarine: Specific product requirements in Western European Countries, 1958*
(Other than general food control, public health, and tax laws)

COUNTRY	Minimum Fat Content (Percent)	Maximum Moisture and Salt Content	Required Fats and Oils Ingredients	Indicator	Milk and Butterfat Content	Color and Flavor Requirements	Vitamins	Preservative Permitted	Other Additions Required	Use of Term "Margarine"	Labelling	Advertising Restrictions	Licensing	Quotas	Packaging Shape	Retail Weight[1]	Retail Sales Regulation	Public Eating Place Regulation	Pertinent Statutes
Austria[2]	80	20%, with salt.	None	0.2 - 0.3% potato starch.	No butterfat, except in up to 100 parts of milk or equivalent in cream per 100 parts of non-milk fat.	None, if non-injurious.	None	Up to 2% benzoate of soda, or 0.24% benzoic acid.	None	Permitted	(2)	(2)	Manufacturer registration and license. Criterion: local demand.	None	Cube	(2)	(2)	No discrimination.	Foodstuffs Control Act, 1952. Price Regulation Act, amended, 1954; Foodstuffs Act, amended, 1950, and Codex Austriacus Alimentaricus; Margarine Act, amended, 1897, and Order of 2/28/39.
Belgium	82 (if salted, 75%)	Salt permitted to 10%. Non-salt and non-fat parts permitted to 15%.	5% sesame oil.	0.2% potato starch in 5% sesame oil.	Up to 10% butterfat; may not be labelled.	Colors not saponifiable by hydrocholoric acid solution. No restriction on flavorings.	None	Salt only.	None	Required	Size and color of imprint. Salt must be labelled.	Dairy terms	None	None	Cube	1/4 - 1/2 - 1 - 2 kg.	1 m. or more from butter.	No discrimination.	Act of 7/8/35, amended 1939.
Denmark	80	16% moisture. Salt permitted.	5% sesame oil.	5% sesame oil.	No butterfat, except in whole milk or cream permitted under 3% milkfat equivalent.	None, if non-injurious.	Permitted: A - 20,000 IU/kg. of which 6,000 may be carotene. D - 500 IU/kg.	Salt only.	None	Required	Net weight-min. 2mm type.	Dairy terms	Notification only.	None	5 kg. and over - non-circular. Under 5 kg. - square or round.	None	No market-place or wagon sales, exc. milk trucks.	No discrimination.	Margarine Act of 1937, amended, and Orders of 5/30/25, 6/22/46, and 6/28/37.
Finland	80	16% moisture. Salt permitted.	None	0.5% potato starch.	Up to 5% butterfat permitted.	None, if not injurious.	None	Up to 0.3% benzoate of soda, or benzoic acid.	None	(3)	(3)	(3)	None	(3)	None	(3)	(3)	(3)	(3)
France	None. 84% is used	16% moisture. Salt permitted.	None	0.2% potato meal.	Up to 10% butterfat permitted.	Color prohibited since 1947 except as natural to fat ingredients[4] Diacetyl permitted since 1935; provisionally.	Natural vitamins permitted only; amounts not specified.	Salt, ascorbic acid, and mono- and diglycerides.	None	Required	Placement, maker, net weight, composition.	Dairy terms	Notification only. Simultaneous production of m. and b. prohibited.	None	Square blocks, except Algiers or Fr. tin. (cyl.). Other export - no restriction.	None	Simultaneous sale or storage of m. and b. prohibited.	No discrimination.[5]	Margarine Act of 1897 as amended; Decree 12/30/31; Order 12/31/31; Act 6/29/34, Act 7/2/55, Decree 12/31/35; Act 12/31/36; Decree 8/11/47, various Agriculture Department circulars.
Germany, West (and West Berlin)	78	20% with or without salt.	5% rapeseed and 1% tallow required since 1952/53.	0.2 - 0.3% starch.	No butterfat, except in milk or cream equivalent up to 100 parts per 100 parts of non-milk fat.	None, if not injurious.	None	Up to 0.2% benzoate of soda or benzoic acid.	None	Required	Placement and type size, vitamins.	Dairy terms	Notification only.	None since 1/1/50.	Cubes	None	At a distance from butter.	No discrimination.	Act of 6/15/97, as amended; Act of 3/23/33; regulations under Act 7/4/97, as amended 10/23/12.
Iceland[3]	80	15% moisture.	(Butter may be required to a certain amount.)[6]	2% potato starch.	(Butter may be required.)[6]	None, if not injurious.	None	(3)	None	(3)	Requirements[3]	Dairy terms[3]	Annual report of production and ingredients.	(3)	(3)	1/4 - 1/2 - 1 kg.	(3)	(3)	(3)
Irish Republic[3]	None	16% moisture.	None	None	Up to 10% butterfat.	Certain "coal tar" and metallic colorings considered injurious are prohibited; also gambogo.	None	Prohibited.	None	Required	Size and placement	Dairy terms	None	(3)	None	(3)	(3)	(3)	Food Act of 1899; Butter and Margarine Act of 1907; Margarine Act of 1887; public health laws and food regulations of 1928.
Italy	84	16% moisture.	None	Sesame oil 1:20 to other fats.	Butterfat prohibited.	Certain "coal tar" and other colors considered injurious are prohibited.	None	Salt, Sodium chlorate up to 2%.	None	Required	Size, visibility, net wt., manufacturer and address, etc.	Dairy terms	Manufacturer's license, annual; fee 10,000 lira - Register of production and materials.	None	None	Under 1 kg.	No connection with places where butter sold or made, exc. warehouses. Shipping documents.	No discrimination.	Act of 11/4/51, rules of 1/14/54 (GPR #131), and 11/4/51 (#1316); Act of 12/23/56.
Luxembourg[7]	82	16% moisture.	10% sesame oil.	0.2% potato starch in 5% sesame oil.	Up to 10% butterfat permitted.	Carotene only permitted.	None	Salt only.	-	-	-	Dairy terms	Notification.	—	Cubes	—	Margarine and butter may not be sold together.	Notification.	Act of 3/1/03; Order of 12/23/38, Act 9/25/53.
Netherlands	80	16% moisture.	None	None	Butterfat and cream prohibited, except for certain exports.	Carotene and annatto. Flavorings permitted.	Required: A - 20,000 IU/kg.	Up to 2% benzoate of soda or benzoic acid; salt.	Fillers permitted	Required, including on pats.	Type size, color, and placement prescribed for different sizes of packages. Vitamin labelling regulated. Manufacturer's mark.	Dairy terms	Notification; registration, regulations governing factory facilities, equipment, and structure.	None None	Oblong or cylinder permitted (1/4 - 1/2). Certain exceptions for institutional, processor, or wholesaler deliveries, and tins.	Units - 1/4 - 1/2 - 2-1/2 kg. Shippers - 1-2-3-5-10-15-25 kg.	None Factory retail sales must be ordered in advance.	No discrimination, except pat be marked "margarine". No discrimination.	Butter Act, 1900, amended 1902, 1908, 1924, 1935, and 1953; Margarine Decree, 10/16/25, amended 11/21/46 and 1/19/56; Ordnances, Product Board for Margarine, Fats and Oils (1957). Act of 3/4/58, Regulations 1/7/49 (Agriculture) and 6/9/52 (Price Director).
Norway	80	16% moisture maximum; 0.5% minimum.	None[9]	None	No prohibition.[8]	None, except forbidden by law.	Required: A - 20,000 IU/kg. D - 2,500 IU/kg.	Salt only.	None	Required	Place, type size, color, banding, etc. Butterfat content cannot be labelled.	Dairy terms	Registration, notice, and factory sanitation.	(3)	Cubes; Bakery goods: oblong, in bulk,	1/2 kg.	(3)	(3)	Acts of 7/22/05; 3/22/26; Decrees 5/17/30; 4/17/53.
Portugal[3]	84	13% moisture.	None[10]	0.5% potato starch.	Butterfat prohibited, but milk permitted up to 10%.	Only natural colors.	None	Only salt, and 1% potash or saltpeter.	None	(3)	(3)	(3)	None[3]	(3)	None	(3)	(3)	(3)	Decree of 3/2/28; Order of 8/20/29, Decree of 2/23/34, Order of 1/7/36; Law of Feb. 1934; Edict of 6/4/58 (Home Office); Econ. Order of 2/21/55.
Spain[3]	None[3]	None[3]	None[10]	2 parts per 1,000; no special type required.	Butterfat prohibited.	(3)	(3)	(3)	None	Required	(3)	(3)	(3)	None	None[3]	(3)	None, identification of product on sales documents.	No discrimination.	Ordnance 12/21/51, amended 1852 and 1956; Food Law, 12/21/51, amended; Ordnance 6/7/58; Regulations 6/7/58; Ordnance 5/23/41.
Sweden	82	16% moisture.	Since 1953, coconut oil, 45%, rapeseed oil, 20%, whale oil, 20%.	2% potato starch.	None	Aniline colors prohibited; others permitted if non-injurious.	Permitted: A - 30,000 IU/kg.; D - 1,500 IU/kg.	Up to 0.3% benzoate of soda or benzoic acid.	None	"Margarine" required.	Net weight, vitamin content, etc.	Dairy terms	None	None	None	None	None	Consumption in restaurants prohibited.	Order 5/28/36; Federal Act 10/3/51; Federal Decree 9/29/53.
Switzerland	84	16% moisture.	None	None	None. If butter used, must be at least 10%.[12]	Coloring permitted. Flavoring prohibited.	Permitted in bulk goods[11]	Salt, only, up to 2%.	None	Required	Type size, etc.	Dairy terms; special qualities, children's use; use on bread.	Registration.	None	Cubes	None	None. "Margarine" must be labelled and stated.	No discrimination, except margarine may not be sold as butter.	Food Standards (Margarine) Order, 1955, and Regulations (Butter and Margarine), 1955; Food Labelling Regulations, 1955.
UNITED KINGDOM	None; 84% used	16% moisture.	None		Butterfat or butter up to 10%.	Certain "coal tar" and metallic colors, and gamboge, prohibited.	Required (consumer sales): A - 760 to 940 IU/oz. D - 50-100 IU/oz.	Prohibited.	None	Required	Type size, statement of butter content, etc.	Dairy terms, but "butter" may be used if ingredient.	None		None	2 oz. up to 8 oz. 1/4 and multiples up to 2 lbs. 1/2 and multiples up to 4 lbs. Multiples of 1 lb.[13]			

*Source: International Federation of Margarine Manufacturers; Andersen, A. J. C., *Margarine* (London 1954); Federation Internationale de Laiterie, *La Margarine* (Rome 1956); and private sources. This table in no way implies or infers the existence of a restriction that may be legally invalid. The legal definition of margarine varies between different countries.

[1]Most margarine in Western Europe is sold in 1/4 kilo (250 grams, roughly 1/2 lb.) or 1/2 kilo (500 grams, roughly 1 lb.) sizes, in cubes or oblongs, with wrapper only. [2]The Austrian laws on this subject are under review and subject to change. [3]Information not available up to date. [4]French margarine is white in color. [5]Certain rules are set forth in Art. 23 of the Act of 7/2/35. [6]Upon recommendation of the Icelandic Agricultural Association. [7]No margarine being produced currently. [8]Currently, butter's price acts as a prohibition. [9]May be imposed depending upon domestic supplies, etc. [10]May be imposed depending upon domestic supplies, etc. [11]The exact status of vitaminization is not known. [12]Currently, no butter is being used. [13]Unless weighed in presence of purchaser with statement of net weight.

Comparison with U. S. Practices

Some major distinctions exist between the margarine of Western Europe and of the United States:

(1) The bulk of European margarine is made without salt, while all but a very few specialty American margarines employ $2\frac{1}{2}$ to 3 percent salt. (In some areas in Europe, such as Western France, a salted product is preferred.)

(2) The relative homogeneity of fats ingredients in U. S. margarines--using overall 84 percent of domestic soybean oil and 12 percent of cottonseed oil in 1958--is not approached overseas, where the fats are diverse, are used more interchangeably, and are mostly imported.

(3) There are various differences in distribution and packaging. Household refrigeration being not nearly so common in Europe as in America, margarine must be made and distributed accordingly. The wrapping is simpler, the outer carton more often than not being absent except for the higher priced brands. The time of distribution from factory to table is often much less in Europe, thanks to the shorter distances.

(4) Margarine prices in Europe are often much closer to those of butter than in the United States. And butter makers in Europe frequently receive special interim help at the expense of margarine when their product's price falls.

(5) Many European countries have much higher margarine per capita consumption rates. In part, this is due to the absence in most countries of vegetable shortening, the place of which is taken by margarine.

(6) The future growth of margarine consumption in Western Europe may be less potentially than in the United States; but, this condition may not apply to all European countries.

There are likenesses, too, and these, on balance, seem even more important than the differences. For the margarine one consumes in Western Europe is not greatly different as a commodity from that one used in the United States. Further, public acceptance is increasing on both sides of the Atlantic. Major problems are similar: Improving quality and marketing and resisting legislation intended to aid butter by discriminating against margarine. There is an identity of interest between national margarine industries the world over that has been reflected in recent international conferences of margarine manufacturers.

Outlook

The future of margarine in Western Europe is probably one of expansion, but at what rate and in what areas especially is conjectural. Many considerations are involved--the future competitive positions of butter and margarine; the costs of oil and the future of the European oil-crushing industry; the course of food consumption habits; and others. The recent experience with slumping world butter prices has demonstrated that European margarines may have to contend with this adverse factor in the foreseeable future, even if on a less competitive basis than in 1957-58.[14] The key question is to what extent margarine in the northern, established consumption areas--where most of the margarine is made and used--can re-establish a rate of expansion beyond that of population increases.

A conservative outlook is that Western European production in 1965 may be well above the 1956 level, but not by any means so much as that year was above 1950--70

[14] The desirability of increasing consumption of butterfat in the form of dairy products other than butter, a familiar theme in Europe and America for some years, found restatement during the 1958 butter crisis in the United Nations' Food and Agriculture Organization, "The Butter Situation", May 9, 1958, pp. 15-16 et seq.

UNITED STATES DEPARTMENT OF AGRICULTURE

WASHINGTON 25, D. C.

Official Business

POSTAGE AND FEES PAID
U. S. DEPARTMENT OF AGRICULTURE

percent. An important related question is what larger share of Western Europe's total fat consumption--which leveled off after the postwar recovery--can be won by margarine. No doubt margarine improvement and promotion will intensify.

Western Europe will continue for the foreseeable future to be the largest single production "bloc" in world margarine. Its share of world production will be lower as margarine or vanaspati consumption proceeds upward outside of the product's homeland. Regardless of that statistical event, the European industry's contribution is sure to be of great importance. Margarine everywhere will continue to look to Western Europe for many of its best examples of leadership and product.